

(No Model.)

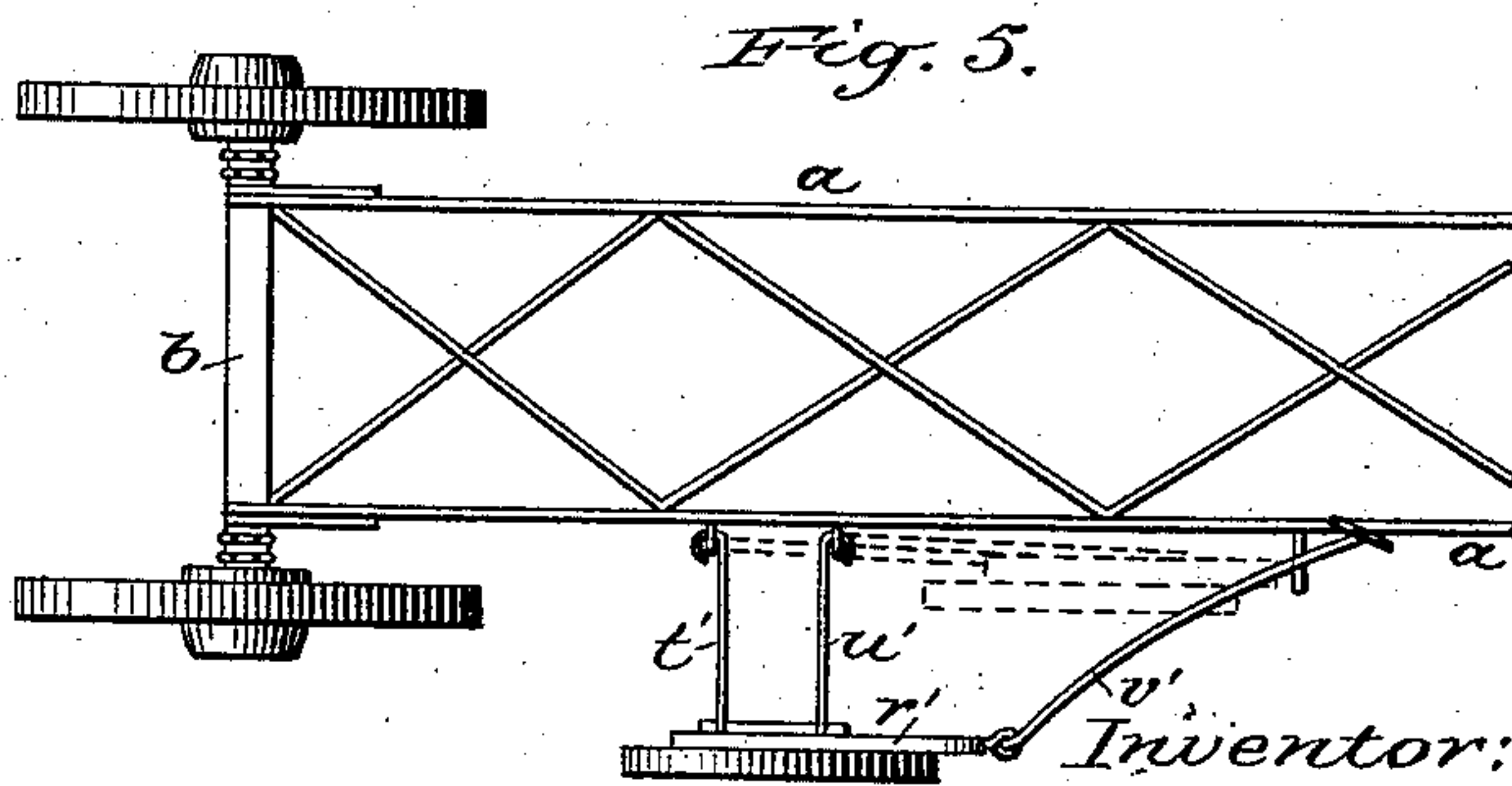
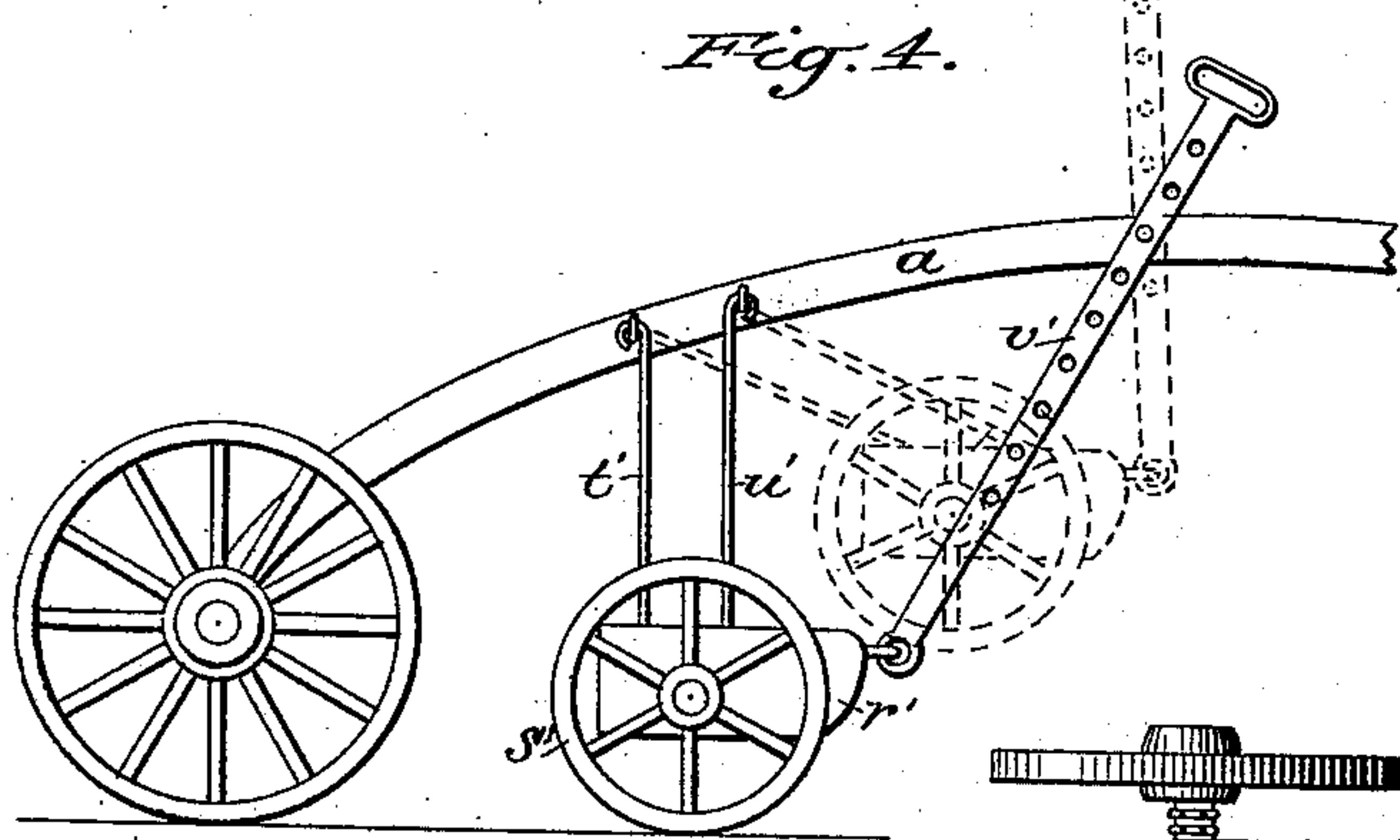
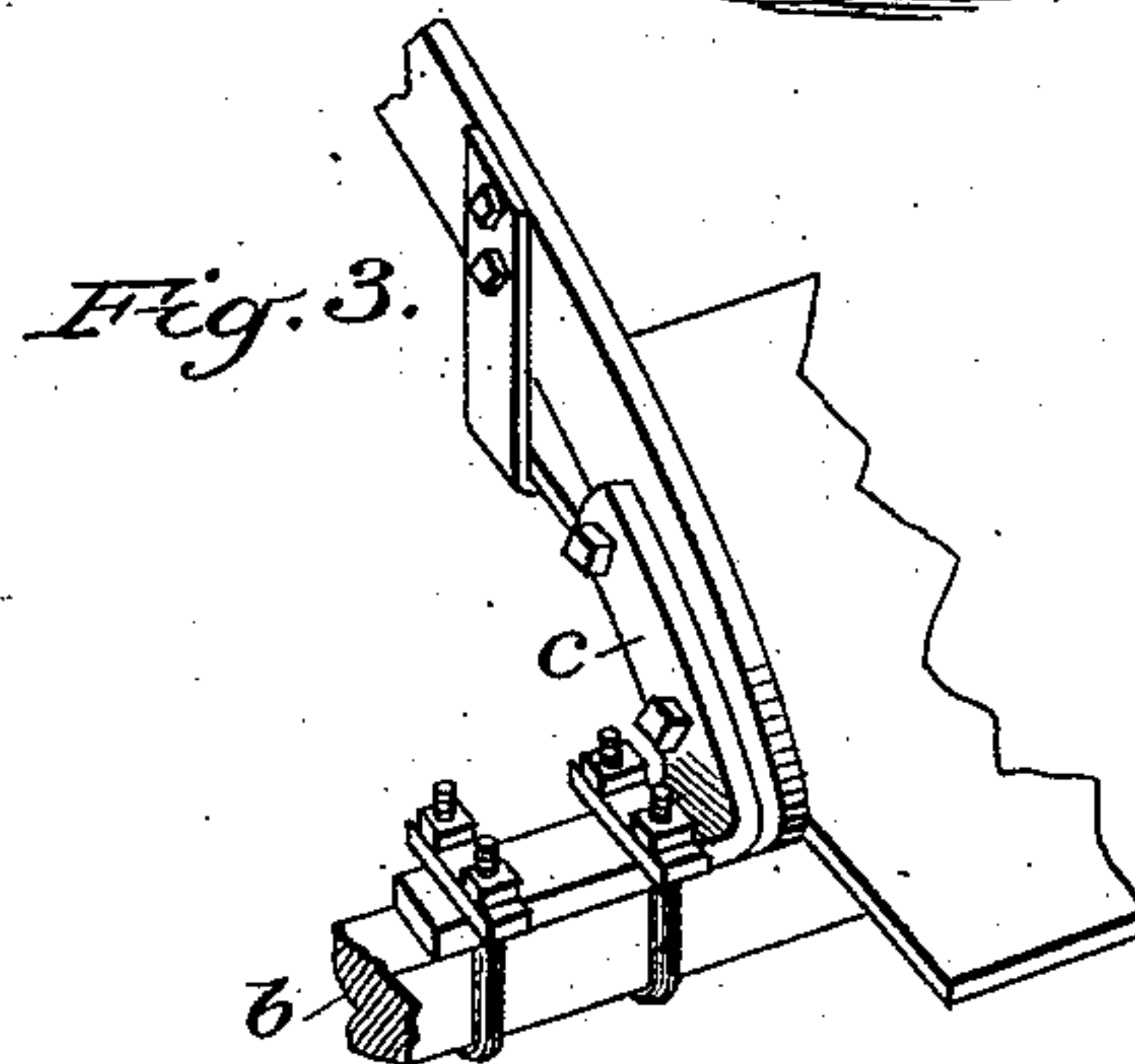
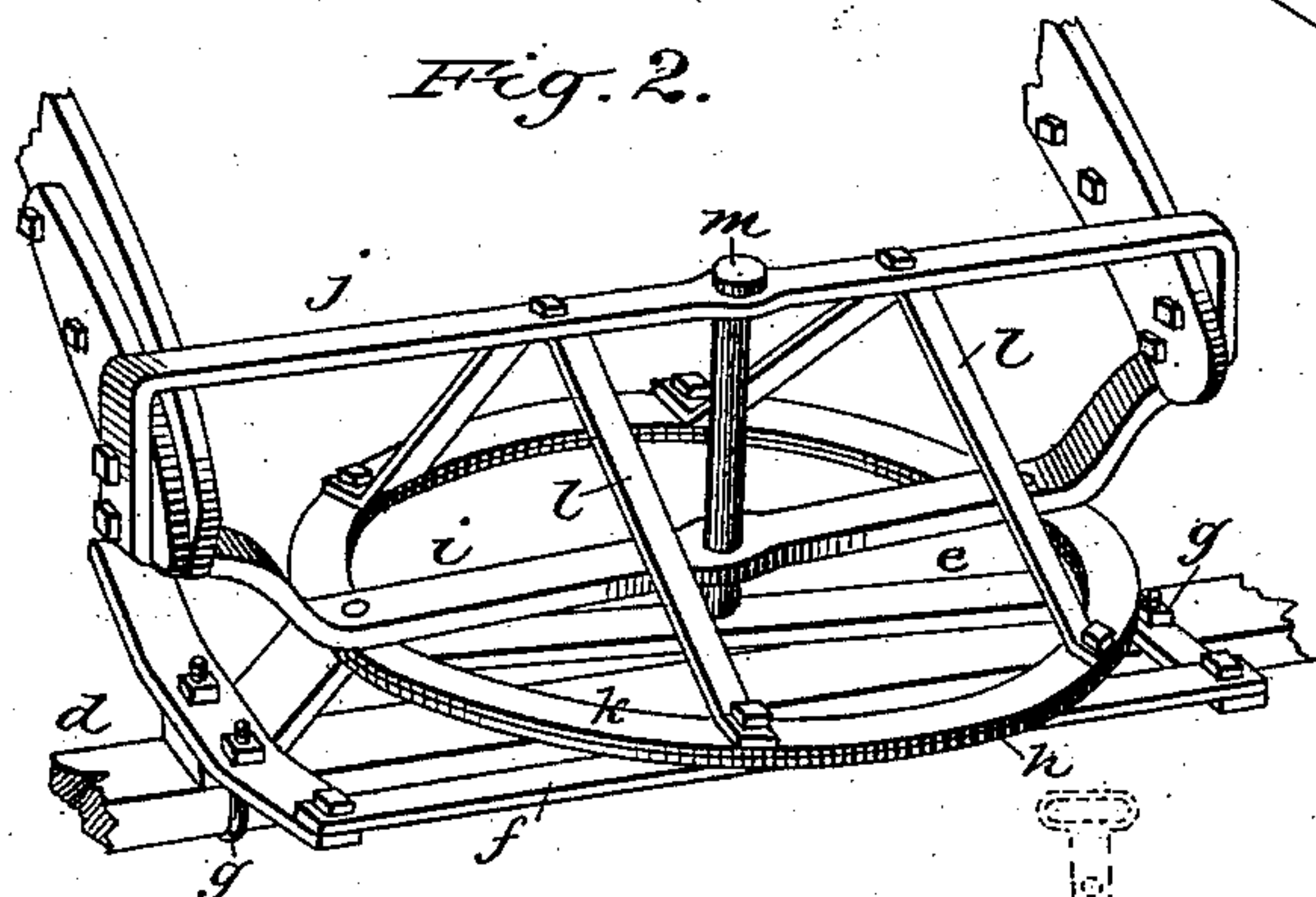
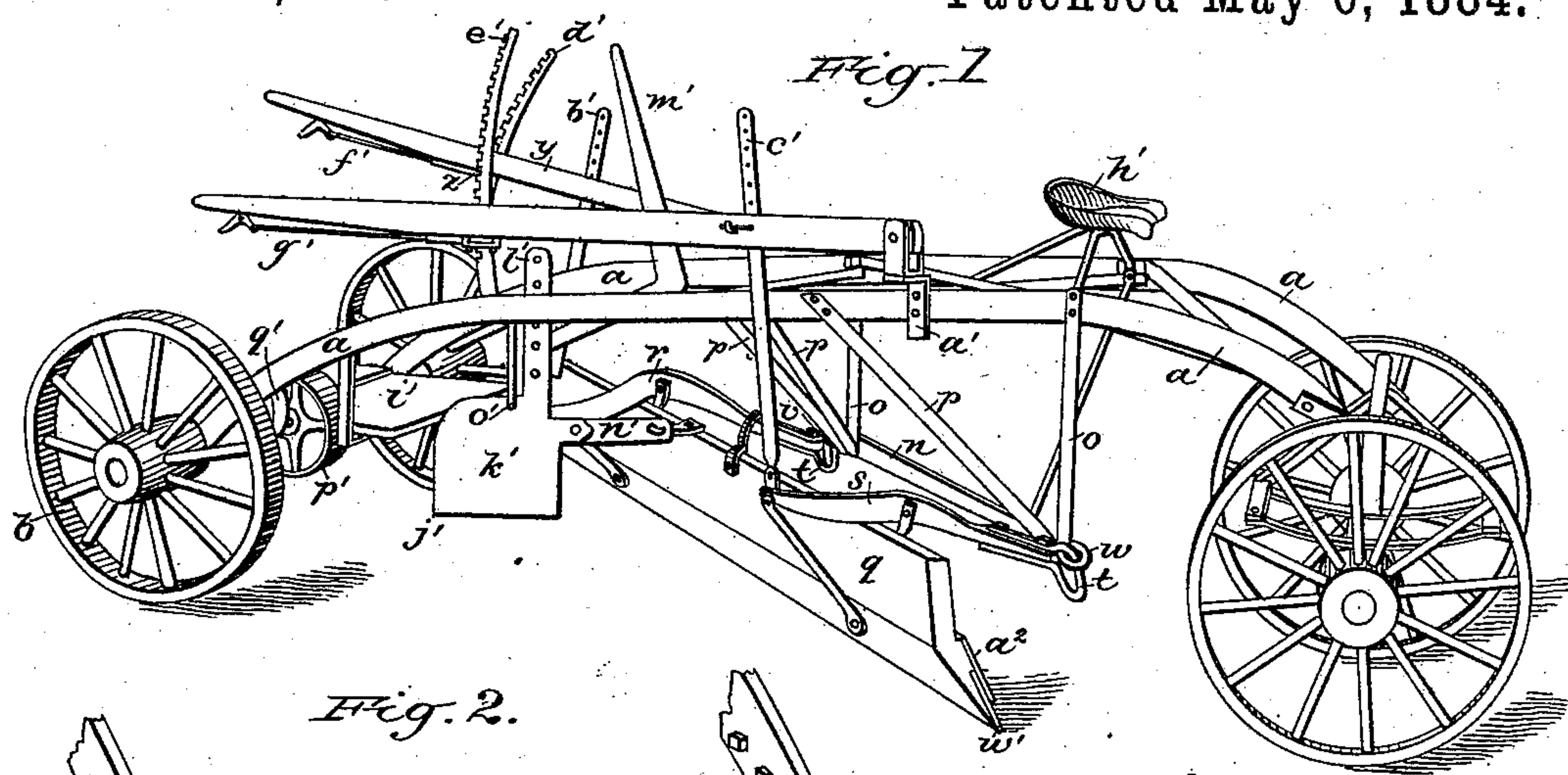
3 Sheets—Sheet 1.

L. LAMBORN.

ROAD SCRAPER.

No. 298,097.

Patented May 6, 1884.



Witnesses:

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Inventor:

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Fig. 6.



Fig. 7.



Fig. 8.

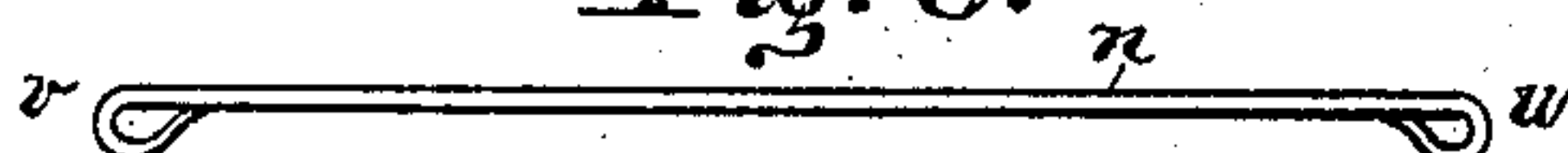


Fig. 9.

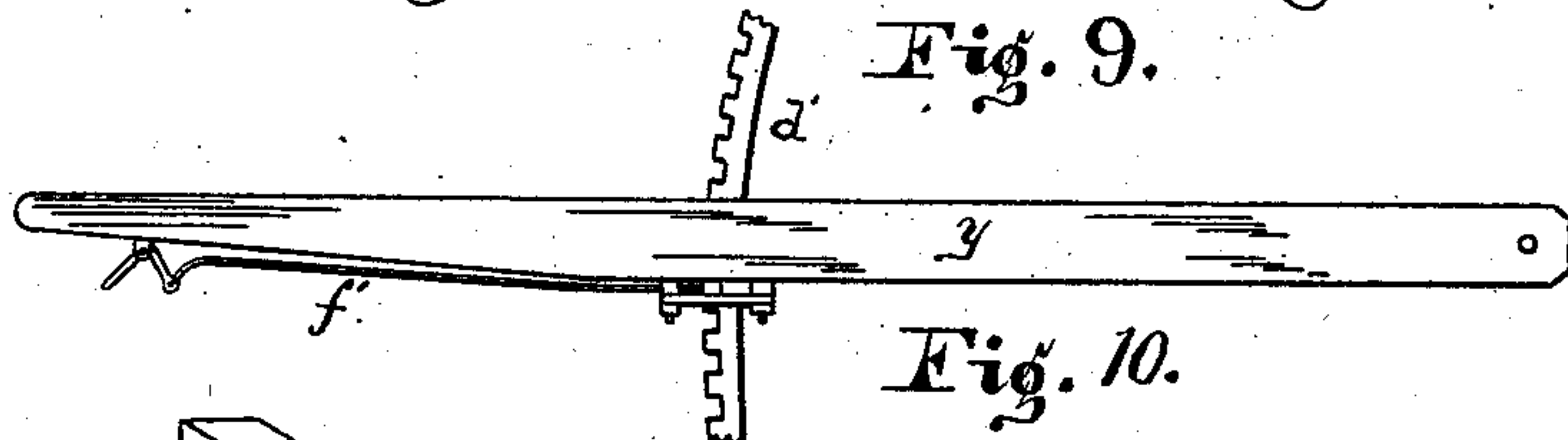


Fig. 10.

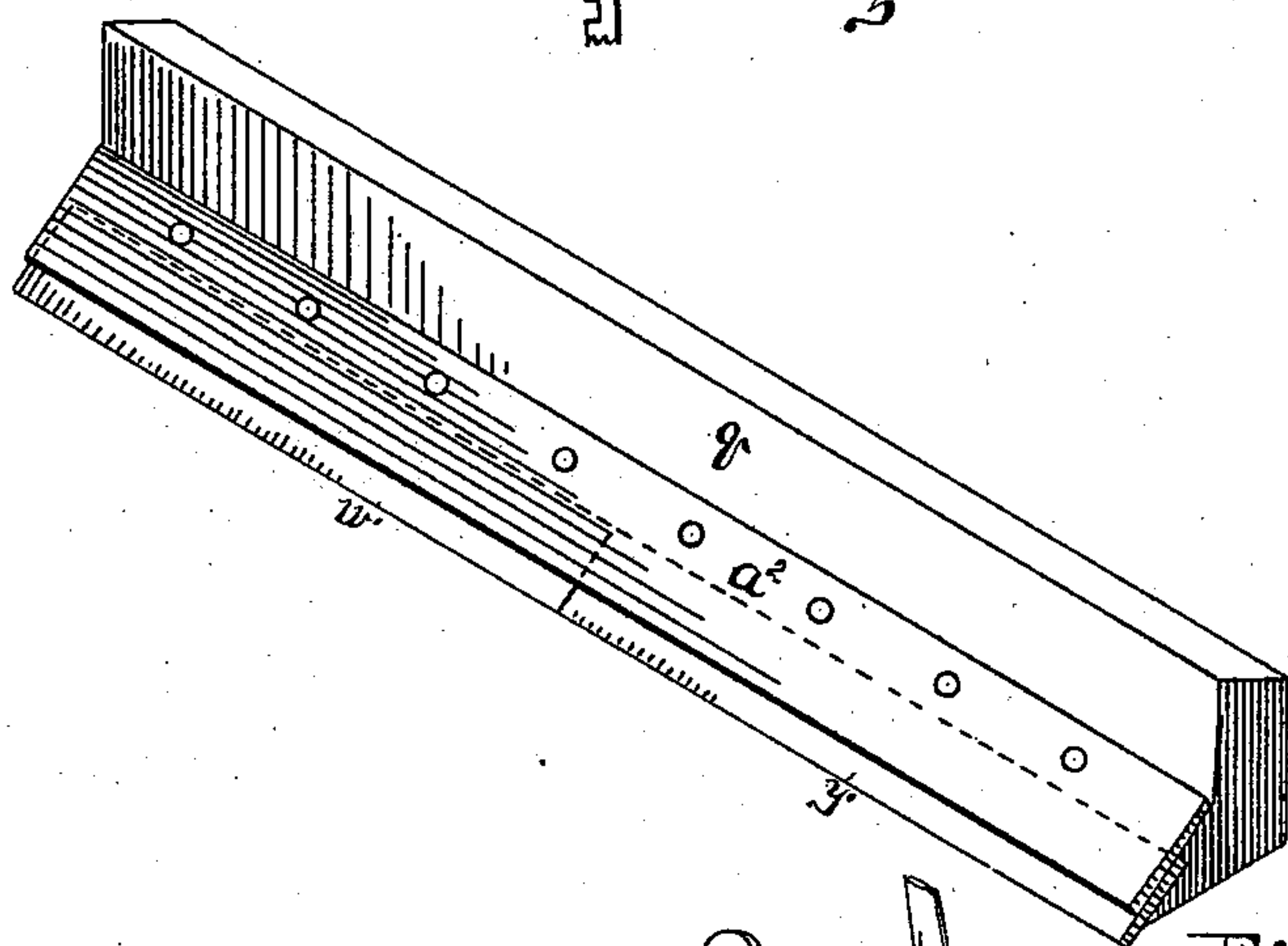


Fig. 11.

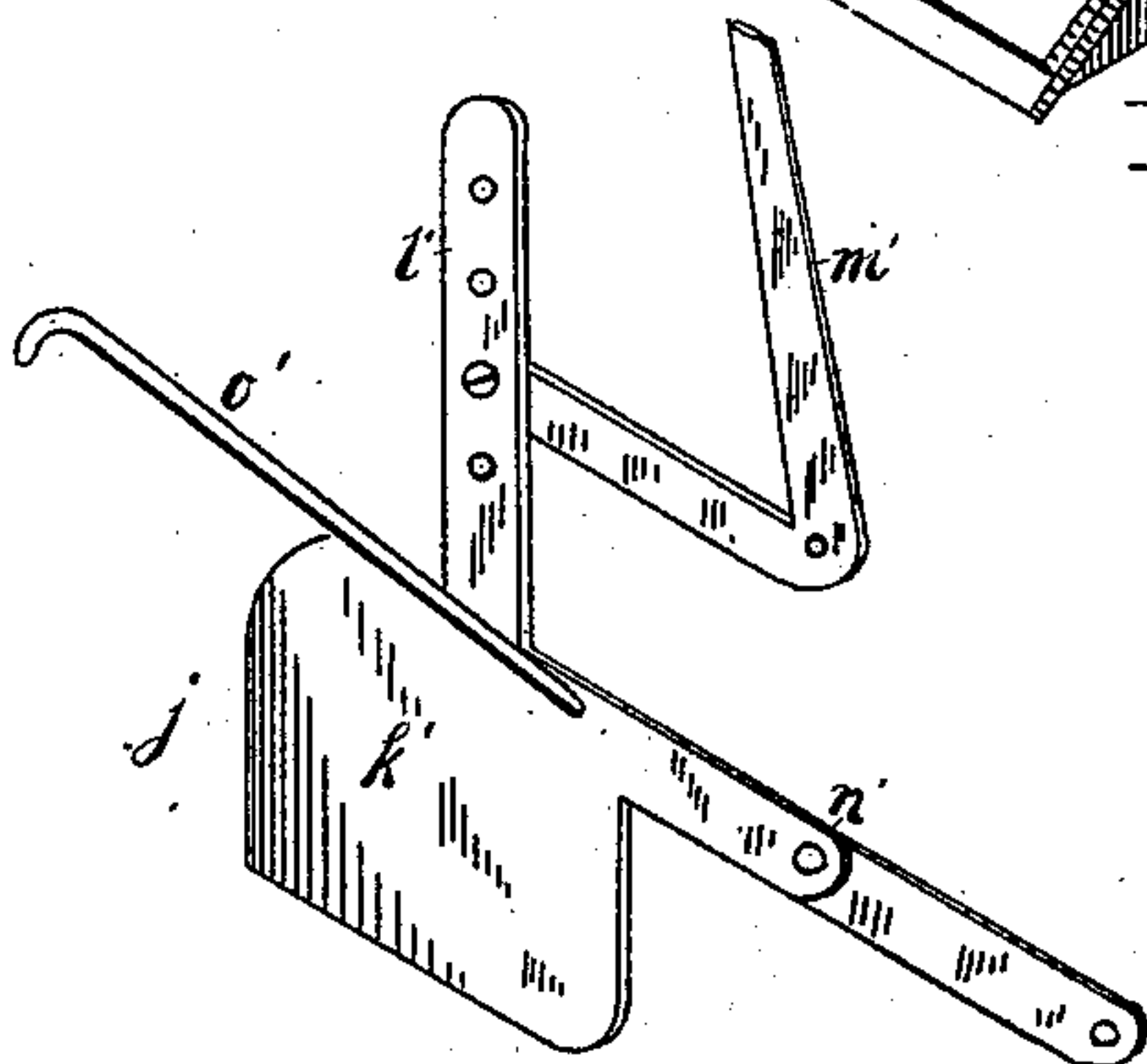


Fig. 12.

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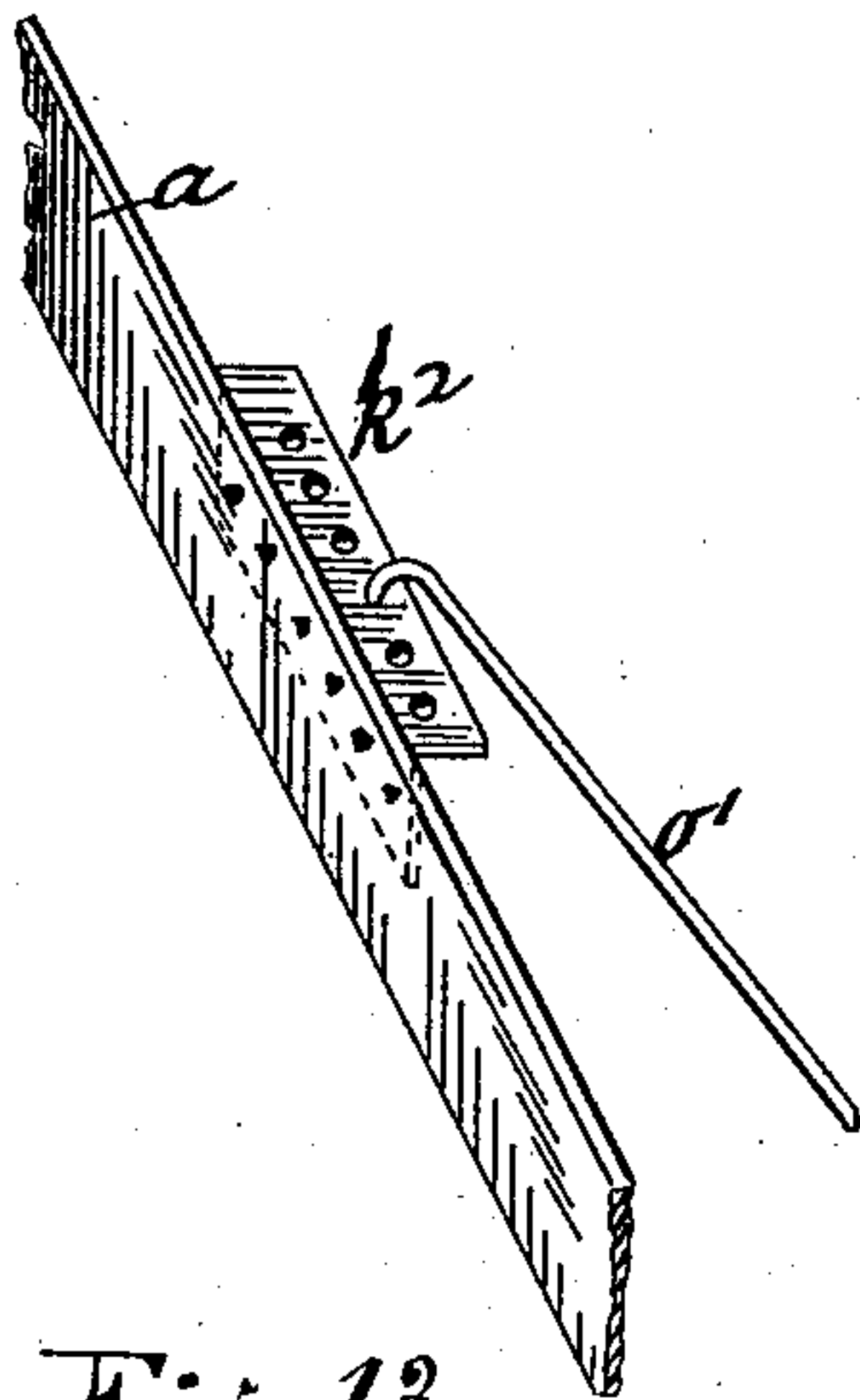


Fig. 13.

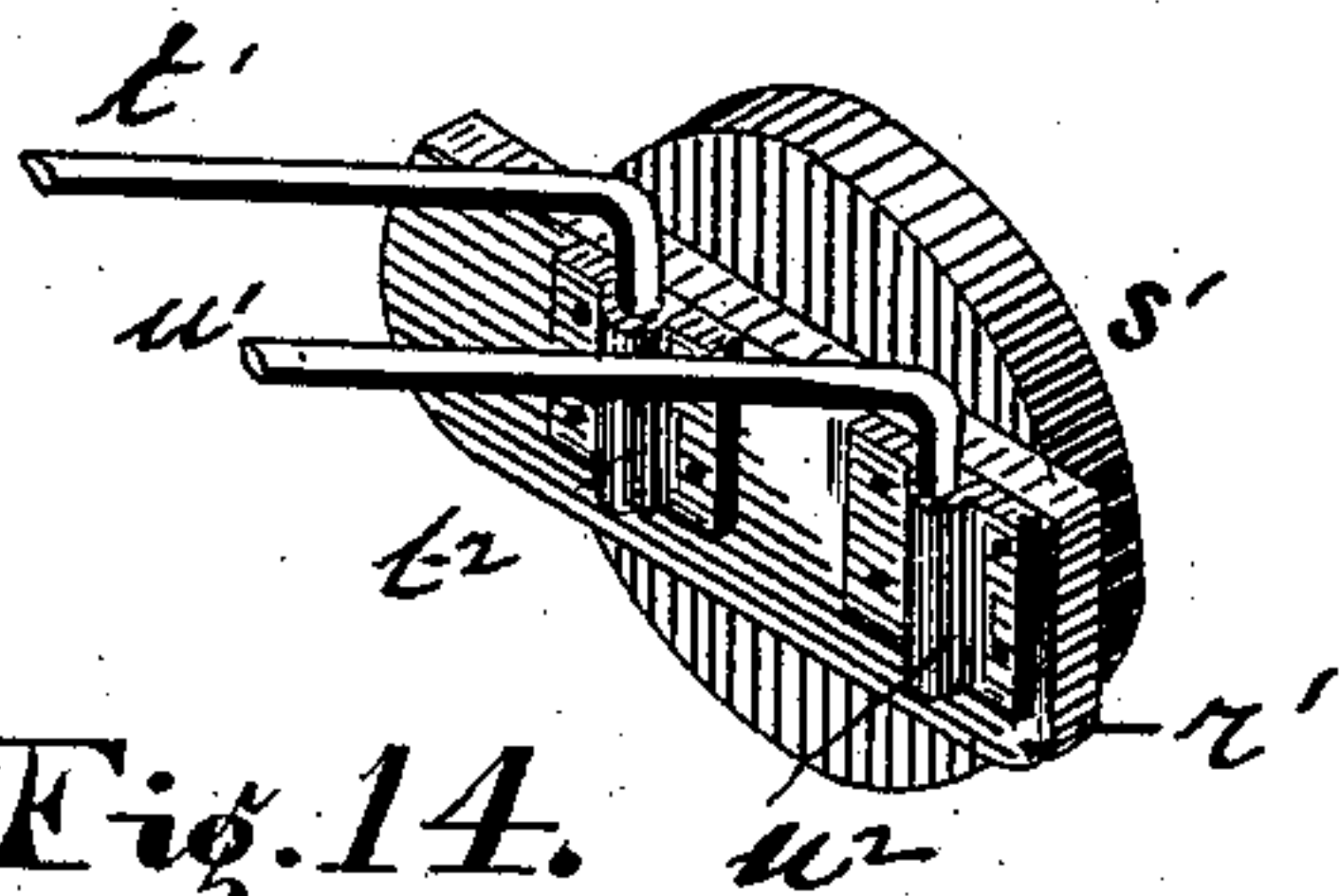


Fig. 14.

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UNITED STATES PATENT OFFICE.

LEWIS LAMBORN, OF HAMORTON, ASSIGNOR TO THE LAMBORN ROAD MACHINE COMPANY, (LIMITED,) OF MEDIA, PENNSYLVANIA.

ROAD-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 298,097, dated May 6, 1884.

Application filed December 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, LEWIS LAMBORN, a citizen of the United States, residing at Hamorton, in the county of Chester and State of Pennsylvania, have invented certain new and useful Improvements in Road-Scrapers, of which invention the following is a specification.

The improvements herein described relate more especially to the road-scraper for which a patent was allowed me November 19, 1883; and they consist of an arched frame, adjustable scraper-plates, curved draft-beams, with clevises constructed with a downward and forward curve for attaching said beams to the draft-bar, an auxiliary wheel located between the rear wheels, a rudder with flexible attachments which permit its whole cutting-edge to bear evenly on the ground, and an adjustable landside, which may be attached to the side of the frame at any point between the front and rear wheels, the same being combined and arranged substantially as herein-after described and claimed.

In the annexed drawings, Figure 1 is a perspective view of the complete machine, omitting the landside. The other figures represent details, Fig. 2 being a perspective view of the devices employed for attaching the respective sides of the arched frame to the front axle of the machine; Fig. 3, a perspective view of the devices for attaching one (either) of the sides of the arched frame to the rear axle; Fig. 4 an elevation, and Fig. 5 a plan, of the adjustable landside applied to the frame; Fig. 6 a side elevation, and Fig. 7 a plan, of one of the two similar draft-beams *r* and *s*, and of one of the two similar clevises, (marked *t* and *u*;) Fig. 8 a side view, and Fig. 9 a plan, of the draft-bar *n*; Fig. 10, a side elevation of one of the two similar pressure-levers *y* and *z*, racks *d'* and *e'*, and spring-pawls *f'* *g'*; Fig. 11, a perspective of the scraper-bar, showing the adjustable plates that form its cutting-edge; Fig. 12, a perspective of the rudder. Fig. 13 is a perspective of a part of one of the frame-bars *a*, showing the perforated plate *k*², to which the upper end of the hooked rod *o'* is attached. Fig. 14 is a perspective of the

inside of plates *r'*, showing the broad sockets *t*² *u*², in which the parallel rods *t'* and *u'* turn.

a is the frame, consisting of two bars arching from end to end and strengthened by cross-braces, as shown in Fig. 5. The arched form of the frame insures strength with comparative lightness, as well as capacity for short turning of the machine. More than two arched bars may be employed, if desired, but they are unnecessary; or the frame may consist of a single arched bar, bifurcated at either end; but in this case brackets or laterally-projecting arms to form bearings for the scraper attachments, pressure-levers, driver's seat, and the several parts depending from the frame have to be supplied. The bars of the frame *a* are secured to the rear axle, *b*, as shown in Fig. 3, by means of angle-irons *c*, bolts and nuts being used to fasten one leg of the respective irons to the respective bars, and ordinary clips and nuts to fasten the other legs of the respective irons to the rear axle, *b*, as shown. The fastenings of only one of the bars of the frame are illustrated in Fig. 3; but it is to be understood that the other bar is in like manner fastened to the rear axle, *b*.

The front ends of the arched bars of the supporting-frame *a* are attached indirectly to the front axle, *d*, as shown in Fig. 2, wherein *e* is a bolster bolted to the axle *d*. *f* is an open frame, fastened to the bolster *e* by clips and nuts *g*. *h*, the lower circle of the fifth-wheel, rests on the bolster *e* and frame *f*, to both of which the circle *h* is bolted. *i* is a bolster, the ends of which extend along the sides of the arched frame, which sides are bolted to these end extensions of the bolster, as shown. *j* is a cross-brace. The upper circle of the fifth-wheel is marked *k*, and it is bolted to the bolster *i*, and strengthened by the angle-braces *l*. The king-bolt *m* passes down through the cross-brace *j*, bolsters *e* and *i*, and axle *d*.

n, Figs. 1, 8, and 9, is the draft-bar, supported from the frame *a* by the hangers *o*, and strengthened by the braces *p*. It is preferably arranged diagonally with respect to the frame, the hangers *o* being placed at different distances from the front axle, as shown in Fig.

1, for the purpose of getting larger space for the left front wheel when the machine is turned short around toward the left.

q is the scraper-bar.

5 r and s are draft-beams, which are curved upward, as shown, with the view of preventing any obstruction to the lateral movement of earth along the front of the scraper-bar when the machine is in operation.

10 The draft-beams r and s are provided with the clevises t and u , which respectively engage the eyes v and w of the draft-bar n , and are given a downward and forward curve, as represented, for the purpose of allowing the draft-beams, and with them the scraper-bar, to rise when the scraper-bar meets an immovable obstruction. The clevises t and u are similarly attached by bolts x to the draft-beams r and s , as shown in respect to one of them in Figs. 6 and 7. These clevises are adjustable from side to side, turning on the bolts x as centers, and they thus allow the scraper-bar q to be moved from right to left, and vice versa.

25 The curved draft-beams r and s can be advantageously applied to the road-scraper for which a patent was allowed to me November 19, 1883, with the clevises therein described.

30 y and z are pressure-levers, similarly fulcrumed in similar standards projecting from the frame a , one of which standards (marked a') appears in Fig. 1.

35 b' and c' are adjustable links connecting the levers y and z with the draft-beams r and s . These links pass through slots in the pressure-levers respectively, and they are provided with holes, as shown, and are adjusted in respect to their length by the insertion of a pin through perforations in the levers and the 40 corresponding perforations in the links.

d' and e' are racks, and f' and g' are spring-pawls, by the conjoint action of which the levers y and z , and with them the scraper-bar q , are held at any desired elevation.

45 h' is the driver's seat.

i' is the operator's platform.

50 j' , Figs. 1 and 12, is the rudder, which is intended to prevent the swaying of the rear part of the machine. It is located in the rear of the scraper-bar q , and consists of a blade, k' , sharpened on the bottom, in order that it may be more readily forced into the ground, and it is provided with an upright shank, l' , perforated with holes for use in adjusting its height, and a crank-lever, m' , pivoted at its elbow to the frame a , as shown in Fig. 1. The blade k' is attached by means of a flexible arm, n' , to an ear or lug on the scraper-bar q , as shown in Fig. 1.

60 o' , Fig. 12, is a rod hooked at its ends in opposite directions, one hook being inserted in a hole in the blade k' of the rudder and the other in a perforated plate, k^2 , Fig. 13, located for the purpose on the inside of the frame.

65 This construction allows the rudder to be adjusted up and down, while it at the same time

possesses sufficient flexibility to allow the whole cutting-edge of the rudder to bear evenly on the ground. It will be seen that the hooked rod o' prevents side displacement of the rudder without interfering with the up and down adjustment of the rudder. 70

75 p' , Fig. 1, is an auxiliary wheel of less diameter than the main wheels. It is located between the rear main wheels, near the off or right-hand wheel in a right-handed machine, such as is shown, and near the left-hand main wheel in a left-handed machine. As shown, its axle bears at one end in the hanger q' , which is bolted to the frame and at the other end in a socket, (not shown,) which is bolted to the operator's platform i' . This wheel p' may be placed on the rear axle. It is applicable also to a two-wheeled machine. Its purpose is to prevent the axle near or on which 80 it is placed from dragging upon the ground when the off-wheel in a right-handed machine or the near wheel of a left-handed machine gets into a rut or gutter.

85 As an additional means of controlling the lateral movements of the machine I make use of an adjustable landside, (shown in Figs. 4 and 5,) which is intended to travel in the road gutter, or in a furrow formed by a previous passage of the machine. It may be attached 90 to the frame at any point between the front and rear wheels on the off side of a right-handed machine and on the near side of a left-handed machine. It consists of a plate, r' , to one side of which there is journaled the wheel s' , constituting what I term a "runner," which travels in the gutter or furrow. The lower ends of the parallel rods t' and u' turn in broad sockets t^2 u^2 , Fig. 14, placed on the inside of the plate r' , the upper ends of these rods being flexibly attached to the frame a , as shown in Figs. 4 and 5. 95

100 v' is a curved perforated bar flexibly attached to the plate r' , and secured by the application of one of its perforations to a pin or hook or equivalent device on the frame, as shown in Fig. 5. By means of the bar v' the landside is set farther out from or in toward the frame a , or drawn up clear of the ground, as shown by the dotted lines, and held in the required 105 position. The wheel s' may be dispensed with and the plate r' used alone as a runner, if desired. The landside is especially designed for use when the machine is working in plowed or loose ground, or on the sloping side of a road, where the rudder might not penetrate to the hard ground, and hold with force sufficient to prevent the lateral swaying of the machine. 110

115 w' and y' , Figs. 1 and 11, are reversible plates, which form a self-sharpening cutting-edge to the scraper-bar q . They are held in place by the binding-plate a^2 , which is bolted directly to the front of the scraper-bar q , as shown, or on the bottom of the scraper-bar. 120

125 It will be seen that the plates w' and y' may be set out, or removed and inverted, or re- 130

versed, when the binding-plate a^2 is loosened, without entirely removing the bolts, and that the tightening of this plate on the plates w' and y' serves to hold the latter in position.

5 I claim—

1. In a road-scraper, a supporting-frame which arches from end to end, in combination with a scraper-bar, substantially as set forth.

10 2. In a road-scraper, an arched frame supported at its rear end by the rear axle and at its front end through a fifth-wheel by the front axle, in combination with a scraper-bar, substantially as set forth.

15 3. In a road-scraper, the combination, with an arched frame supported at its rear end by the rear axle and at its front end through the fifth-wheel by the front axle, of an auxiliary wheel arranged between the rear wheels of a four-wheeled machine, substantially as set
20 forth.

4. As an improvement in adjustable blades forming the cutting-edge of the scraper-bar of a road-scraper, the combination, with said blades, of a binding-plate which permits the
25 removal or adjustment of the blades by loosening without removing its fastenings, substantially as set forth.

5. In a road-scraper, the combination, with

the scraper-bar, of upwardly-curved draft-beams connected by clevises with the draft-
30 bar, which is attached to the supporting-frame, substantially as set forth.

6. In a road-scraper, the combination, with the draft-bar and upwardly-curved draft-
35 beams, of clevises t and u , constructed with downward and forward curves, and engaging eyes in the draft-bar, which is attached by hangers to the supporting-frame, substantially as set forth.

7. In a road-scraper, a rudder consisting of
40 the blade k' , perforated shank l' , elbow-lever m' , flexible arm n' , and hooked rod o' , in combination with a scraper-bar and supporting-frame, substantially as set forth.

8. In a road-scraper, the landside consist-
45 ing of a runner, the parallel rods t' and u' , the lower ends of which turn in sockets attached to the plate r' , and the upper ends of which are flexibly attached to a supporting-frame, and the perforated bar v' , adapted to engage
50 a pin or hook or equivalent device on the frame, substantially as set forth.

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Witnesses:

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